

II. *The genus Euliphyra, Holland.* By Prof. E. B. POULTON, with notes by G. T. BETHUNE-BAKER and H. ELTRINGHAM.

PLATE XXVII.

MR. W. A. LAMBORN'S material throws so clear a light upon the species of this important and puzzling little genus that it seems worth while to write a short revision. This is all the more necessary because the species, few as they are, have been much confused. Hewitson described together under *leucyania* the male and female of two very different species, and Aurivillius, recognising this mistake, created a new species for the female, which is finally proved by W. A. Lamborn's material to be the hitherto unknown female of Holland's *mirifica*. The want of a proper understanding of the true relationships has been principally due to the great rarity of the specimens.

1. *Euliphyra leucyania*, Hewitson (see the accompanying Plate XXVII, figs. 1-4). First described under the genus *Liphyra* in Trans. Ent. Soc., 1874, p. 355, and afterwards in Ill. D. Lep. Suppl., 1878, p. 34 male, p. 35 female. Hewitson represented in fig. 2 of his Plate V b, the underside of the male and in fig. 1 the upper side of the female. As Aurivillius showed in "Rhopalocera Aethiopica" 1898, the female is an entirely different species from the male. The locality quoted by Hewitson in both publications is Old Calabar, but his two specimens in the British Museum are labelled Sierra Leone. Appended to the description in Ill. D. Lep. Suppl., published after Hewitson's death, is a note (p. 34) by the late W. F. Kirby, expressing the opinion that the reference of the species to the genus *Liphyra* was erroneous. The British Museum has since acquired an example of the true female of *leucyania*. The specimen bears the following data:—

"Ashanti, Obuassi (150 miles inland) 1902-3 (end of wet season and beginning of dry) G. E. Bergmar." At the same time undoubted evidence as to the sexes of *leucyania* is to be welcomed, and is provided by Mr. Lamborn's capture, on Feb. 6, 1911, in the forest 1 mile E. of Oni Clearing, of a pair *in cop*. The note with the specimens is as follows:—

"The damaged condition is attributable to the mode of

capture. They were *in coitû* on a dry twig in the centre of a dead bush, and as I disturbed them they fell and separated, and I was obliged to scramble to catch them."

It will be seen by reference to Plate XXVII, figs. 1-4, that the condition of the butterflies is not so poor as might be inferred from the above note. The specimens have been compared with the male type and the female in the British Museum and they are closely similar—Lamborn's female having a slightly heavier dark marginal band.

2. *Euliphyra mirifica*, Holland (see the accompanying Plate XXVII, figs. 5-11). The male of this species was first described in "Psyche," 5, p. 423 (1890), again described and both upper and under surfaces figured in 1893 in Smith and Kirby's *Rhop. Exot.*, 23, *Lycaen. Afr.*, p. 89, t. 20, f. 11-12. The single specimen was bred by the Rev. A. C. Good on the upper waters of the River Ogové, Gaboon, having been "developed from 'a very singular chrysalis, short and thick, and unlike anything of the kind I have observed before, which was found upon the under side of a large leaf. It was black in color.'" ("Psyche," *l. c.*, p. 423.)

Aurivillius, having discovered Hewitson's mistake, referred to on p. 504 gave the name *hewitsoni* (*Rhop. Aethiop.*, p. 286, 1898) to the female type of "*leucyania*" in the collection of the British Museum. I have compared both under and upper surfaces of Lamborn's 5 females with this type, and they are certainly the same species. The 3 males have been carefully compared by Mr. H. Eltringham and me with the excellent figures and description of Dr. W. J. Holland's male specimen in *Rhop. Exot.*, and we have no doubt that they are the same species. Hewitson's female "*leucyania*" and Aurivillius' female "*hewitsoni*" become the female of Holland's *mirifica*, and Hewitson's original specimen, after serving temporarily as the female type of two species, is finally found to belong to a third.

Of Lamborn's 5 females, D (Plate XXVII, fig. 8) is almost exactly similar to Hewitson's specimen, and, like it, shows an exceedingly faint trace of a white mark below the cell of the hind-wing on the upper surface, corresponding to the position of the strongly marked white bar on the under surface. The trace is very faint and has not been reproduced in Hewitson's figure referred to above. The other 4 specimens—E, F, G, and H (Plate XXVII, fig. 9)—have the same faint mark rather more strongly emphasised, although

it varies in the degree of development. Furthermore, in these 4 the white patch crossing the fore-wing is larger and less clouded over by dark scales in its central part. In the hind-wing patch these 4 females exhibit a slight approach towards *Euliphyra sjöstedti*, Aurivillius, described from the Cameroons in Ent. Tidskr., 16, p. 204, fig. 13, 1895, and almost certainly a Southern geographical race of *E. mirifica*.

A female *sjöstedti* from Ambriz, Angola, exists in the British Museum, and only differs from Lamborn's 4 females in the much greater development of the white patch of the hind-wing above: the patch on the fore-wing is similar, as also the pattern of the under surface.

The material described in the present paper seems to show beyond any reasonable doubt that at present only two species of the genus are known, together with a Southern geographical race of one of them.

*Note on the genus Euliphyra and its allies,*  
by G. T. Bethune-Baker.

This genus has hitherto been placed among the *Lipteninae*; it does not however appear to me to have any relationship with that sub-family. If indeed it has any near connection with another genus, I should with little doubt ally it, as Hewitson did, with *Liphyra brassolis*, Westw. The shape of the wings is very similar,\* whilst the male armature, though not like that of *brassolis*, is yet nearer to it than to any other species that I know. Prof. Poulton, having allowed me to dissect one of the Oxford specimens of *Euliphyra*, has enabled me thus to arrive at this conclusion. The clasps are quite small proportionately, they are somewhat oval with a longish angulated process at the apex. The Saccus (*i. e.* the lowest hindermost basal part of the girdle) is large and broad, whilst the girdle is somewhat slight in structure, the tegumen and the falces are very large and copious,

\* There is also a remarkable resemblance between certain features of the pattern of the hind-wing under surface, and the fact that the larvae of both live in the nest of the same species of ant *Oecophylla smaragdina*.—E. B. P.

the former being projected hindwards, that is towards the head of the insect, much more than forwards, the front line being straight, the dorsal apex being projected forwards suddenly but slightly, the dorsal apex itself being slightly but evenly excised: the hinder part is deeply hollowed out below the dorsal area, and projected backwards to form a blunt point in the centre of the dorsum: the falces are socketed on to the tegumen on the very front line, they are very large and strong, angled at a third from the socket and then curved forwards, the apical fifth being suddenly reduced so as to form a moderately fine tip. The aedoeagus is of moderate length, short for the size of the insect, of nearly uniform width, with the apical orifice arched, extending from the upper side of the tube, which is slightly lipped, to the under side, which is rounded off. This genus and *Liphyra* do not appear to me to be nearly allied to any other Ruralid group with which I am acquainted, though their male armature quite definitely shows that they belong to it. It may prove to be that they should form a small section of their own, in which case the most appropriate name would be the "*Liphyrinae*," in which I should also include *Aslauga*. The neuration of *Liphyra*, *Euliphyra*, and *Aslauga* is very close, the general shape of the wings is analogous, the life-history of each group is quite specialised. Mr. Lamborn speaks of the resemblance between the larvae of *Aslauga* and *Euliphyra* (p. 451), and both are animal feeders. The legs of *Aslauga* and *Liphyra* have a quite unusual similarity, and I fancy the palpi are also very similar and so are the antennae.

*Note on the Structure of the Fore-legs in certain Lycaenidae*  
by H. Eltringham.

As a rule the fore-feet of *Lycaenidae* furnish an easy method of distinguishing between the sexes, but in the genus *Aslauga*, as noted by Schatz and Röber, the male fore-feet are not distinguishable from those of the female, at least by ordinary methods. The male tarsus is quite definitely five-jointed, and the terminal joint is provided with two claws, a pulvillus, and paronychialia. In the case

of *Aslauga lamborni* a properly prepared microscopic preparation shows a difference between the male and female fore-feet, a difference which consists in the fact that in the male the terminal joint is much swollen, whilst the corresponding joint in the female, though of about the same length, and thicker than those which precede it, is nevertheless not so stout as in the male.

The persistence of the five-jointed, double-clawed tarsus in *Lycaenidae* occurs in other genera than *Aslauga*. The condition is found in *Arrugia*, *Theclopsis*, and *Euliphyra*. In *Arrugia basuta*, Trim., the femur of the male fore-leg is of a peculiar shape, having on the under side a pointed process of the chitin followed by a secondary smaller projection nearer the tibial joint. There is a mere indication of a similar structure in the female. The tarsi are not distinguishable in the two sexes, and in both the joints are equally spine-bearing. The paronychiae are remarkable in appearing to be double on each side, possibly they are merely bifurcated. In *Euliphyra mirifica* there is no difference between the tarsi of the two sexes, except that in the female the claws are rather better developed.

Of *Theclopsis* I have been unable to secure an example for examination, but Godman and Salvin state that there are no paronychiae. Preparations of the fore-feet of *Liphyra brassolis*, from specimens kindly furnished by Mr. Bethune-Baker, show that they are alike in the two sexes. In the male one of the claws seems rather less rounded than the other, but a series would be required to show whether this is a constant feature. The pulvillus is well developed, but there appear to be no paronychiae.

The genera *Aslauga*, *Liphyra*, and *Euliphyra*, more especially the two latter, may be regarded as closely allied, but *Theclopsis* and *Arrugia* are widely separated from them and from each other, and the persistence of the five-jointed male tarsi must apparently be regarded as an independent survival.

## EXPLANATION OF PLATE XXVII.

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The species of the genus *Euliphyra*, Holland (pp. 450-6, 504-12). All the figures are slightly below the natural size.

- FIG. 1. *Euliphyra leucyana*, ♂: captured, *in coitû* with the ♀ represented in figs. 3 and 4, in the forest 1 mile E. of Oni, Feb. 6, 1911 (pp. 504-5).
2. Under surface of the above ♂.
  3. *Euliphyra leucyana*, ♀: captured *in coitû* with the ♂ represented in figs. 1 and 2.
  4. Under surface of the above ♀.
  - 5-11. *Euliphyra mirifica* bred in June and July 1912, from larvae or pupae found in or near nests of the ant *Oecophylla smaragdina* r. *longinoda*, in the forest near Oni. Full data will be found on pp. 455-6.
  5. *E. mirifica*, ♂ 818 A.
  6. .. .. ♂ 818 B: under surface.
  7. .. .. ♂ 818 C: under surface.
  8. .. .. ♀ 818 D: the pattern of the specimen here figured is nearly identical with that of Hewitson's type of the ♀ "*leucyana*" and of Aurivillius' ♀ *hewitsoni*.
  - 8A. Pupa-case of above ♀. The expanded sucker-like base is distinctly shown.
  9. *E. mirifica*, ♀ 818 H: the pattern of the under wings exhibits a slight approach towards that of the ♀ *E. sjöstedti* (pp. 505-6): the pattern of the upper wings is similar to *sjöstedti*.
  10. *E. mirifica*, ♀ 818 F: under surface.
  - 10A. Pupa-case of above ♀. The anterior part of the case still lies within the dorsally cleft larval skin.
  11. *E. mirifica*, ♀ 818 E: under surface.

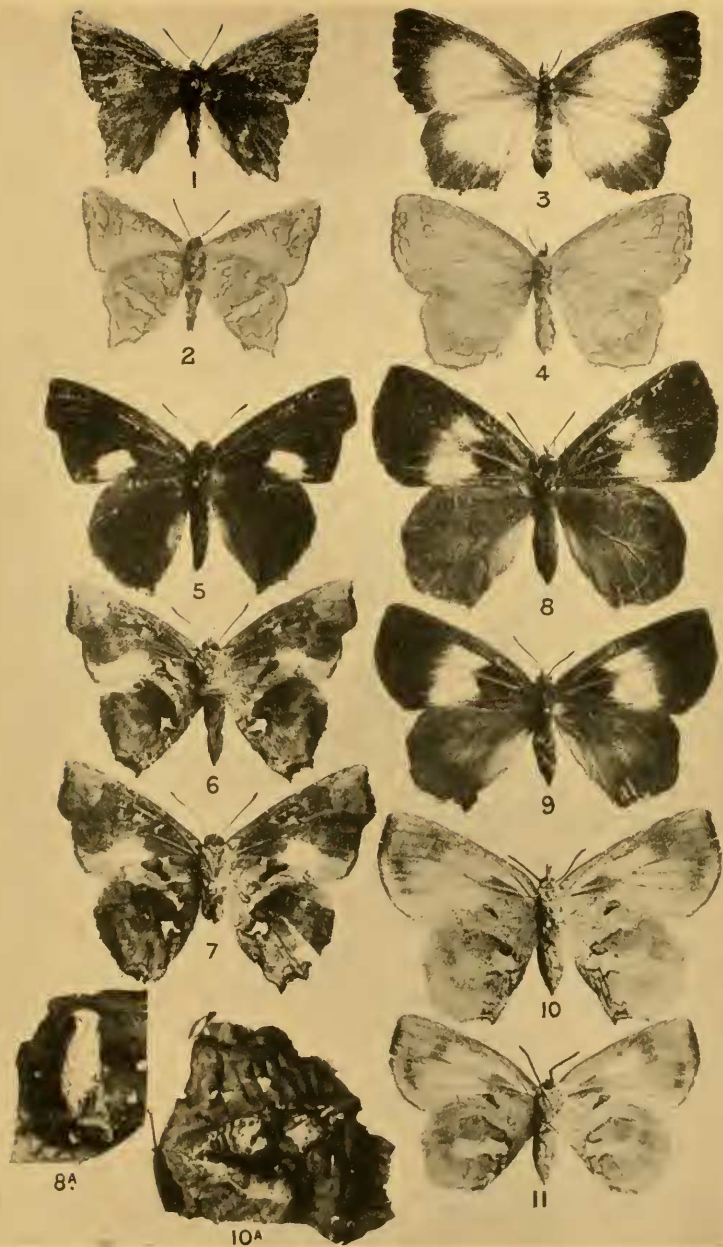


Photo., A. Robinson.

(Slightly below natural size.)

C. Hentschel.

*Euliphyra leucyana* (figs. 1-4) and *E. mirifica* (figs. 5-11) from the Lagos district : W. A. Lamborn (1911-12).